

II. REMARKS

Upon entry of this Amendment, claims 38-48 and 50-52 are pending. Claims 38, 42-44, 47 and 51 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,072,433 to *Young et al.* Claims 39-41, 45-46, 48, 50 and 52 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Young et al.* in view of U.S. Patent No. 5,043,903 to *Constant*, and either one of a reference entitled “ADS-Mode S System Overview” by *Boisvert et al.*, or U.S. Patent No. 5,570,095 to *Drouilhet, Jr. et al.* Claims 38-48 and 50-52 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,153,836 to *Fraughton et al.* in view of *Constant*, and either one of *Boisvert et al.* or *Drouilhet, Jr. et al.* Claims 38-48 and 50-52 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,596,332 to *Coles et al.* in view of *Constant*, and either one of *Boisvert et al.* or *Drouilhet, Jr. et al.* The claims, as amended, traverse the Examiner's objections and rejections. No new matter is submitted.

Rejections Under 35 U.S.C. §102 (e)

Claims 38, 42-44, 47 and 51 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,072,433 to *Young et al.* On page 2 of the present Office action, in item number 2, the Office action states that claims 38, 42, 43, 44, 47 and 51 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,072,433 to *Young et al.* but then proceeds to discuss *Constant*.

Independent Claim 38

Applicants submit that claim 38 is patentable over both *Young* and *Constant* by requiring at least “data link means for passively receiving broadcast data from a second aircraft, the broadcast data comprising indicia of position of the second aircraft” and “means for generating a steering command to maintain separation between the lead aircraft and the second aircraft in accordance with relative aircraft position of the lead and second aircraft.”

Applicants have argued that *Young et al.* does not disclose passively receiving broadcast data from other aircraft. On pp. 5-6 of applicant's response to a June, 2004 Office action, applicants pointed out that *Young et al.* “do not passively receive broadcast data. Each AFF member must continuously adjust its attitude to search for signals from other AFF

members...While the AFF members [d]o not need to actively emit signals in order to receive the signals, the AFF members must actively adjust their attitude to search for signals.”

As the present Office action notes, applicants have also argued that *Constant* does not disclose “passively receiving broadcast data from a second aircraft.” The present Office action states that *Constant* does not send out any signal to a specific other aircraft in order to receive the other aircraft position information. The Office action states that *Constant* teaches each aircraft broadcasting their own position data; thus, each other aircraft receives the broadcasted position information without initiating any contact therebetween.

As the applicants have previously pointed out, *Constant* teaches that “FIG. 8 shows helicopter Hj making a transmission of duration TM to Helicopter Hk. Hk, however, receives this transmission an amount of time after the transmission was transmitted. This amount of time is the transmission time required for the signal to travel the distance from Hj to Hk. This transmission time is used to measure the distance between the two helicopters. Accordingly, each helicopter in the formation determines the distance between it and each of the other helicopters in the formation.” (Column 6, lines 34-44).

Applicants therefore respectfully traverse the suggestion in the Office action that *Constant* does not send out any signal to a specific other aircraft in order to receive the other aircraft position information. Applicants submit that “transmission time” of *Constant* is not position data, and respectfully traverse the statement in the Office action that in *Constant* each aircraft broadcasts their own position data. Applicants respectfully submit that *Constant* does not teach or suggest passively receiving broadcast data from a second aircraft.

Also, applicants have asserted that:

Constant does not teach a means for generating and transmitting a steering command in the lead aircraft. *Constant* teaches a leader who transmits commands to other units (slaves). These commands dictate a position, heading, speed and altitude of each slave. Using these commands, the slaves then calculate “piloting orders,” which are actual headings and speeds required of each slave to achieve the commanded position, heading and speed. *Constant* teaches that the leader tells the slaves where to go, not how to get there. The slave must calculate the how.

Applicants’ response to the June 2004 Office action, page 6.

Moreover, applicants submit that the “transmission of duration TM” and “the transmission time required for the signal to travel the distance” of *Constant* transmission are not

a “data link means.” In *Constant*, the transmissions themselves do not become data until after they are combined with timing.

Therefore, applicants respectfully request that this rejection be withdrawn, with respect to independent claim 38 and all rejected claims that depend therefrom.

Rejections Under 35 U.S.C. § 103(a) (Section 4 of the Office action)

Claims 39-41, 45-46, 48, 50 and 52 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Young et al.* in view of U.S. Patent No. 5,043,903 to *Constant*, and either one of a reference entitled “ADS-Mode S System Overview” by *Boisvert et al.*, or U.S. Patent No. 5,570,095 to *Drouilhet, Jr. et al.*

The claims that are rejected on this ground are dependent claims. Claims 39-41, 45 and 48 depend directly from claim 38. Claim 46 depends from claim 43, which depends from claim 38. Claim 50 depends from claim 49, which has been cancelled. Claim 52 depends from claim 51, which depends from claim 38. Therefore, all of the claims that are rejected on this ground depend ultimately from claim 38, which is not rejected on this ground. The Office action recognizes that applicants have argued that the claims are allowable due to their dependency on claim 38. However, despite recognizing applicants’ argument, the present Office action has not rejected (on this ground) the independent claim from which the rejected claims depend. Accordingly, applicants respectfully request that this ground for rejection be withdrawn.

Rejections Under 35 U.S.C. § 103(a) (Sections 5 and 6 of the Office action)

In section 5 of the present Office action, Claims 38-48 and 50-52 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,153,836 to *Fraughton et al.* in view of *Constant*, and either one of *Boisvert et al.* or *Drouilhet, Jr. et al.* In section 6 of the present Office action, Claims 38-48 and 50-52 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,596,332 to *Coles et al.* in view of *Constant*, and either one of *Boisvert et al.* or *Drouilhet, Jr. et al.* Both section 5 and section 6 therefore cite *Constant*, and either one of *Boisvert et al.* or *Drouilhet, Jr. et al.*; section 5 further cites to *Fraughton et al.*, while section 6 further cites to *Coles et al.*

Claim 38 includes “means for generating a steering command to maintain separation between the lead aircraft and the second aircraft in accordance with relative aircraft position of the lead and second aircraft,” and “means for transmitting the steering command to the second aircraft.”

Both section 5 and section 6 of the present Office action cite to *Constant*. As pointed out in response to the previous Office action and as reiterated above with respect to the rejection under 102(e), *Constant* does not teach “means for generating a steering command to maintain separation between the lead aircraft and the second aircraft in accordance with relative aircraft position of the lead and second aircraft; and “second aircraft” and “means for transmitting [a] steering command to the second aircraft.” *Constant* teaches a leader who transmits commands to other units (slaves). These commands dictate a position, heading, speed and altitude of each slave. Using these commands, the slaves then calculate “piloting orders,” which are actual headings and speeds required of each slave to achieve the commanded position, heading and speed. *Constant* teaches that the leader tells the slaves where to go, not how to get there, and the slave must calculate how to get to its destination.

Both section 5 and section 6 of the present Office action also cite to *Boisvert et al.* In an office action dated April 24, 2003, the Office action states that “Each of *Boisvert et al.* and *Drouilhet, Jr. et al.* suggest the desirability of ADS-Mode S as it provides a natural transition from a beacon-based surveillance environment to a satellite based navigation ADS environment.” *Boisvert et al.* teaches extending a 56 bit broadcast message address to 112 bits. *Boisvert et al.* would continue to provide for the transmission of a 56-bit ADS message field (see the Abstract of *Boisvert et al.*), and would add either aircraft position information or the ICAO identification of the aircraft; the aircraft position information is either a position message used by the aircraft in flight or a position message that applies to the aircraft on the airport surface (see last paragraph on page 104 of *Boisvert et al.*). “Only one type of position message would be in use at a given time, with the type depending on whether the aircraft is in the air or on the surface.” (*Boisvert et al.*, p. 105).

Applicants respectfully submit that no Office action (including the present Office action) has shown how *Boisvert et al.* can be regarded as teaching steering commands. Applicants respectfully submit that adding position information to a message is not a steering command. Applicants respectfully reiterate that alerting as to position is not generating steering commands.

Both section 5 and section 6 of the present Office action cite to *Drouilhet, Jr. et al.* *Drouilhet, Jr. et al.* teaches a GPS navigation receiver for determining the position of an aircraft, a Mode S transponder for transmitting the position of the aircraft, and a Mode S receiving station for receiving the aircraft’s position. “The Mode S transponder transmits a formatted message

having airborne or surface position information including the type of GPS signal used to determine the aircraft's position, the latitude and longitude of the aircraft, the barometric altitude of the aircraft, the magnetic heading of the aircraft, and movement characteristics of the aircraft.” (Abstract).

Drouilhet, Jr. et al. therefore teaches position information, not steering commands. Applicants respectfully submit that no Office action (including the present Office action) has shown how *Drouilhet, Jr. et al.* teaches steering commands. Again, applicants respectfully reiterate that alerting as to position is not generating steering commands.

Section 5 of the present Office action further cites to *Fraughton et al.* In section 7 (page 6) of the June 1, 2004 Office action, the Office action recognizes that “*Fraughton et al* differ from the claimed subject matter since the response to detection of the collision is the generation of a warning message and not a steering command that is generated and transmitted to the other aircraft in a formation.” Nevertheless, section 5 of the present Office action continues to cite *Fraughton et al.*

Applicants respectfully submit that no Office action (including the present Office action) has shown how *Fraughton et al.* teaches steering commands. Again, applicants respectfully reiterate that alerting as to position is not generating steering commands.

Section 6 of the present Office action further cites to *Coles et al.* However, section 6 of the present Office action mentions *Constant*, not *Coles et al.* Section 6 of the present Office action argues that “*Constant* also meets the scope of the steering command; a commanded position (a relative angle and distance from leader), a commanded heading, a commanded speed and a commanded altitude are provided from the leader to the following aircraft. Each of these commands meets the scope of a means for generating a steering command ...”

The failure of *Constant* to teach what is claimed in claim 38, e.g., “means for generating a steering command to maintain separation between the lead aircraft and the second aircraft in accordance with relative aircraft position of the lead and second aircraft,” and “means for transmitting the steering command to the second aircraft,” has been discussed above. Since the reference *Coles et al.* is mentioned in section 6 of the present Office action, applicants note that the title of *Coles et al.* indicates that the reference teaches an “Aircraft Location and Identification System.” Again, applicants respectfully reiterate that alerting as to position is not generating steering commands.

The present Office action states (in section 5, at the bottom of page 2) that in response to the previous Office action, applicants have alleged that the claims are patentable since the transmitted commands by *Constant* do not meet the scope of the “steering commands” of the claimed subject matter. The Examiner is therefore aware that applicants and previous Office actions have disagreed as to whether the cited references teach or suggest “means for generating a steering command to maintain separation between the lead aircraft and the second aircraft in accordance with relative aircraft position of the lead and second aircraft,” and “means for transmitting the steering command to the second aircraft.” However, applicants respectfully submit that the present Office action does not explain *how* the cited references either individually or in combination could be regarded as teaching “steering commands,” as recited in claim 38. Therefore, applicants respectfully submit that the finality of the preset Office action, at least with respect to this ground of rejection, is premature under MPEP 706.07(d). Moreover, applicants respectfully submit that this ground of rejection should be withdrawn, and withdrawal of the rejection is requested.

“In making the final rejection, all outstanding grounds of rejection of record should be carefully reviewed, and any such grounds relied on in the final rejection should be reiterated. They must also be clearly developed to such an extent that applicants may readily judge the advisability of an appeal unless a single previous Office action contains a complete statement supporting the rejection.” MPEP 706.07. Applicants respectfully reiterates that the cited references do not teach at least “means for generating a steering command to maintain separation between the lead aircraft and the second aircraft in accordance with relative aircraft position of the lead and second aircraft,” and “means for transmitting the steering command to the second aircraft.”

Claims 39-48 and 50-52 are dependent claims. Claims 39-43, 45, 47, 48 and 51 depend from Claim 38. Claims 44 and 46 depends from claim 43, which depends from claim 38; claim 50 depends from claim 49, which has been cancelled; and claim 52 depends from claim 51, which depends from Claim 38. Therefore, for the reasons stated above with respect to claim 38, applicants respectfully request that the rejection of the dependent claims be withdrawn.

III. CONCLUSION

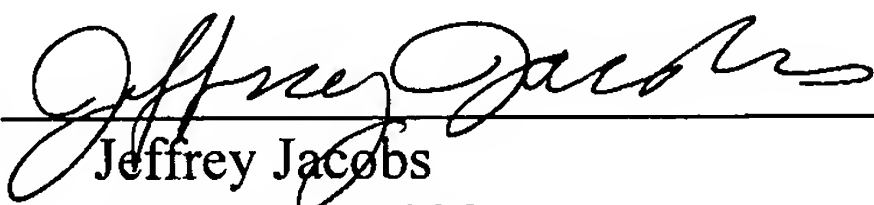
In view of the amendments and arguments herein, this application is believed to be in condition for allowance and favorable action is requested. Applicants reserve the right to prosecute additional claims, including claims of broader scope, in this or a continuation application.

Applicants hereby petition for any extension of time which may be required to maintain the pendency of this case, and any required fee, except for the issue fee, for such extension is to be charged to **Deposit Account No. 19-3878**.

The Examiner is invited to telephone the undersigned at the telephone number listed below if it would in any way advance prosecution of this case.

Respectfully submitted,

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